

---

**From:** Garth Murphy [mailto:garthmy@gmail.com]  
**Sent:** Saturday, February 21, 2009 9:56 AM  
**To:** MLPAComments  
**Subject:** TO SAT, FROM CARLSBAD AQUAFARM INC

TO: STEVE MURRAY, LARRY ALLEN, SAT MEMBERS  
FROM: RSG MEMBER GARTH MURPHY AND JOHN DAVIS  
RE: CARLSBAD AQUAFARM INC REQUEST FOR INSPECTION  
DATE: 20 FEBRUARY, 2009

DEAR SAT MEMBERS,

I HAVE ATTACHED A MEMO FROM JOHN DAVIS, PRESIDENT OF CARLSBAD AQUAFARM INC, ALONG WITH SOME OF MY OBSERVATIONS FROM TWO VISITS TO HIS FACILITY.

PLEASE CONSIDER THIS REQUEST BEFORE ASSIGNING A LOP TO MARINE AQUACULTURE IN THE SOUTH COAST REGION. THANK YOU, GARTH MURPHY

TO: THE SCIENCE ADVISORY TEAM  
FROM: GARTH MURPHY, SCRSG MEMBER  
DATE: 27 JANUARY 2009

RE: CARLSBAD AQUAFARM INC.

I would like to extend an invitation from John Davis, president of Carlsbad Aquafarm, to visit his multiple species marine aquaculture production facility, located at Agua Hedionda Lagoon in north San Diego County,

I have enclosed a memo from Mister Davis summarizing his company's role in the lagoon. In brief, his is the only commercial marine aquaculture facility south of Santa Barbara, the largest in the study region, raising over a million pounds a year of a variety of indigenous shellfish, mostly mussels and oysters. His payroll is more than 40,000 dollars a month.

Memo: Marine Aquaculture in Southern California

1/16/09

Carlsbad Aquafarm Inc (CAI) is the largest shellfish culturing facility in Southern California. It is located in Agua Hedionda Lagoon near the City of Carlsbad, and adjacent to the Cabrillo Power Plant.

Carlsbad Aquafarm (CAI) grows and produces over a million pounds of mussel and oyster each year using suspended long line culturing methods. This type of culture keeps the growing equipment off the bottom of the lagoon, and allows the shellfish to feed equally on plankton in the water column. Massed shellfish are very efficient filter feeders and significantly improve lagoon water quality. Waste from the shellfish is naturally washed out of the lagoon with the daily tidal cycle.

We employ twenty people. Our management and science staff is comprised of a potential PHD, 2 MBAs, and 3 BS degrees. The payroll is approximately \$40,000 thousand per month.

Operations within the lagoon are conducted from shore-based areas, from concrete and steel launch ramp and floating docks. Shoreline and eelgrass disturbance is minimal.

All of our shellfish products are of the indigenous variety and are spawned from our own brood stock. There is no wild harvest and no non-indigenous species are introduced.

Our shellfish are depurated after harvest. (Allowed to clean themselves by flushing out in tanks of sterile salt water). After depuration is completed they are tested at a state certified laboratory for cleanliness and P.S.P, prior to distribution to our customers around the United States and Canada.

This 66 acre Agua Hedionda lagoon is host to many other activities including the Hubbs fish hatchery, the Cabrillo Power Plants and is soon to be the new home of the Poseidon water desalination plant. The middle lagoon hosts the YMCA water recreation facility. The inner lagoon hosts all sorts of water recreation, fishing and The Bristol Cove Marina. In the far eastern end there is a marine reserve and the Agua Hedionda Lagoon Foundation headquarters.

The outer lagoon is dredged every two years to prevent the heavy sand influx from closing the entrance, blocking the power plant intake and stemming the tidal flow that flushes the lagoon. Dredging the outer lagoon guarantees the high daily water exchange essential to good water quality and healthy habitat for marine life.

In addition to CAI's seafood production we also produce the protected Green abalone. They are spawned at the farm and sold to the marine aquarium trade in Los Angeles. We grow macro algae, Gracilaria, on shore in tanks to feed them. Gracilaria and other macro and micro marine algae are grown and distributed for human food and for the tropical fish industry. Artemia, rotifers, and copepods feed our endangered seahorse production, and supply our aquarium customers with much sought after live marine fish food.

Protection for this relatively healthy multi-use lagoon is essential. It must be secured from any further urban encroachment. Water quality maintenance is vital to all users and pollution controls must be in place and maintained. Agua Hedionda Lagoon is a uniquely successful, multi-faceted asset to both local marine life and a select suite of human uses that benefit the local population and economy. As commercial seafood producers and suppliers, Carlsbad Aquafarm offers daily measurable proof of the health and value of a lagoon ecosystem worthy of protection.

John Davis, President,  
Carlsbad Aquafarm Inc.  
Office 760 438 2444

To arrange a visit to CAI, Science Team and other MLPAL members may contact my office or Garth Murphy at 760 402 8360

I have visited Carlsbad Aquafarm twice recently, once with Dr. Anne Spacie, RSG member and staff biologist for Batequitos Lagoon. We have both been impressed by the range of John Davis' knowledge of this lagoon

ecosystem and his expertise in successfully growing marine life in a simple, low impact and profitable manner.

After 25 years as a commercial fisherman, John Davis has spent 30 years refining his aquaculture techniques to comply with a 2 inch thick volume of state regulations and to satisfy his own desire to both minimize his impact on lagoon habitat and grow all of the forage needed for his animals himself, in on shore tanks; to take nothing from the ocean resource but water column filtered plankton produced in abundance in SC bight waters.

His systems are both ingenious and low tech. His seahorse-growing room is like a science classroom, with a line of separate tanks for each forage stage of the tiny animals' development and their matching live food supply tanks on the other wall.

Humans' primary non-extractive impact on coastal marine ecosystems is increased nutrients from sewerage, agriculture and yard runoff. These nutrients plus sunlight transform to algae primary production which must be consumed by secondary trophic level marine life to convert it to forage for higher level predators and we humans. Shellfish perform this service to perfection.

Carlsbad Aquafarm's five acres of water-column suspended shellfish bags, which do not contact the bottom, filter feed on about 10 million pounds of phytoplankton primary production each year in the nutrient-rich lagoon, converting this abundant algae into edible, sellable protein. (Pauley and Christianson, 1995, Primary Production Required to Sustain World Fisheries)

Encouraging marine aquaculture on the secondary level of production, in and out of lagoons, consuming the Bight's abundant and sometimes overabundant phytoplankton and detritus, using low habitat-impact methods like the water column suspension techniques developed by Carlsbad Aquafarm, could be a valuable, measurable mitigation for MPAs presumed initial negative economic impacts on fisheries.

A mere 20 acres of shellfish grown in an opportune offshore location like Santa Monica Bay, could produce 4 million pounds of seafood, equal to the sum total of all commercial and recreational retail fisheries landings in the study region!

I urge you to send a delegate to inspect Carlsbad Aquafarm and interview John Davis before you assign an LOP to marine aquaculture for the South Coast Region. John understands that the LOP is a function of the perceived counter-productivity and habitat alteration of his particular use in the lagoon. He has read the rationale for the mariculture LOP assigned for the North Coast. He believes that this does not accurately describe his operation.

John Davis is a talking aquaculture encyclopedia, an elder treasure trove of practical knowledge in human-aided reproduction of natural abundance in marine life. He is well-versed in the interactions of the existing diverse human and marine life uses of Agua Hedionda lagoon. He generously offers his insights to the Science Team.

He would appreciate a visit from an interested member or members of the SAT to determine first hand where his operation falls in the scale of MPA counter-productivity. He believes his insight will be of service to the MLPAI. He believes Agua Hedionda should be protected as an SMCA.

Thank you for your consideration,

Garth Murphy